

Library Management System

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GitHub Repository: <https://github.com/EllieEarwood/Library-Management-System>

Overview

The Library Management System is designed to efficiently manage book availability, borrowing, and returns within a library. It allows users to search for books, borrow books, and return books, and it allows librarians to manage the library's inventory and borrowing records.

Features

- Search for Books
- Borrow a Book
- Return a Book
- Manage Book Inventory
- Track Borrowing Records
- Database Integration

System Requirements

- Java Development Kit
- MySQL Database Server
- JDBC Driver for MySQL

System Architecture

The system follows a client-server model. The Java application interacts with a MySQL database through JDBC. Users input commands via a text-based interface, and the system processes requests by querying or updating the database.

Demonstration Link

https://iu.mediaspace.kaltura.com/media/t/1_yb4xqedd

Screenshots

```
LIBRARY MANAGEMENT SYSTEM
1 - View Available Books
2 - Add a Book
3 - Borrow a Book
4 - Return a Book
5 - Exit
Choose an option: 1
Connected to MySQL LibraryDB
Fetching Available Books...
Book List:
-----
ID: 1 | Title: The Great Gatsby | Author: F. Scott Fitzgerald | Availability: Available
ID: 2 | Title: To Kill a Mockingbird | Author: Harper Lee | Availability: Available
ID: 3 | Title: 1984 | Author: George Orwell | Availability: Available
ID: 4 | Title: Harry Potter and The Goblet of Fire | Author: J.K. Rowling | Availability: Available
```

```
LIBRARY MANAGEMENT SYSTEM
1 - View Available Books
2 - Add a Book
3 - Borrow a Book
4 - Return a Book
5 - Exit
Choose an option: 2
Enter Book Title:
The Hobbit
Enter Author:
J.R.R. Tolkien
Is the book available? (true/false):
true
Connected to MySQL LibraryDB
New book added successfully.
```

```
LIBRARY MANAGEMENT SYSTEM
1 - View Available Books
2 - Add a Book
3 - Borrow a Book
4 - Return a Book
5 - Exit
Choose an option: 3
Enter User ID: 1
Enter Book ID to borrow: 4
Connected to MySQL LibraryDB
Book borrowed successfully.
Returning to menu...
```

```
LIBRARY MANAGEMENT SYSTEM
1 - View Available Books
2 - Add a Book
3 - Borrow a Book
4 - Return a Book
5 - Exit
Choose an option: 4
Enter Borrow Record ID to return book: 4
Connected to MySQL LibraryDB
Book returned successfully.
Returning to menu...
```